

# BAR CODE MEDICATION ADMINISTRATION (BCMA)

## **INSTALLATION GUIDE**

PSS\*1\*46 PSJ\*5\*58 BAR CODE MED ADMIN 2.0

> Version 2.0 May 2002

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### Benefits of BCMA V. 2.0



#### TIP:

BCMA is designed to augment, not replace, the clinical judgment of the medication administrator, or clinician. The Bar Code Medication Administration (BCMA) V. 2.0 software is the result of enhancement requests from the BCMA Workgroup. This section provides an overview of the major changes in BCMA V. 2.0.

**Note:** The *BCMA V. 2.0 Release Notes* provides more detailed information about all enhancements, including modifications to the options, files, and fields in Inpatient Medications V. 5.0. These modifications were needed to provide BCMA V. 2.0 with the Unit Dose and IV medication data that displays on the BCMA Virtual Due List (VDL) and that prints on reports.

- IV Medications: With BCMA V. 2.0, clinicians can now administer active Unit Dose, IV Push, IV Piggyback, and large-volume IV medications to inpatients at VA Medical Centers.
- Medications Tabs: Three Tabs are provided on the BCMA VDL, designed for separating and viewing the different types of active medication orders. The Tab under which an order displays depends on how the order was entered.
- Alerts: Medication Tabs provide an "alert" light, which turns green when a patient has active medication orders associated to them. Additional patient safety measures include an "alert" if due medications are *not* administered, and a listing of all food, drug, and "other type" Allergies and Adverse Drug Reactions (ADRs) documented for the patient in the Allergy/Adverse Reaction Tracking (ART) package.
- Improved Communication: BCMA V. 2.0 improves communication with the Pharmacy by identifying IV medications on the BCMA VDL with a Unique Identifier Number. This number is generated when the Pharmacy prints a bar code label for an IV bag.
- Marking Medications: Clinicians can now mark multiple medications, and document the administration of medications to the level of Removal, plus document patient medications *not* administered for specific reasons.
- CPRS Med Order Button: BCMA V. 2.0 helps streamline the workflow in ICU-type environments with the CPRS Med Order Button (or "Hot Button") on the BCMA Tool Bar. This button links clinicians directly to the Computerized Patient Record System (CPRS) for electronically ordering, documenting, reviewing, and signing verbal- and phone-type STAT and NOW (One-Time) medication orders that they have administered to patients.

## Benefits of This Guide

Preparing your site for the installation and implementation of BCMA V. 2.0 helps to ensure a smooth integration. This Installation Guide is designed to help you do just that. It includes detailed information such as system requirements; installation time estimates and instructions; and procedures that will get you up and running quickly with BCMA V. 2.0.

### Our Target Audience

We have developed this guide for the following individuals, who are responsible for installing, supporting, maintaining, and testing this package.

- Development Engineering
- Information Resources Management (IRM)
- Clinical Application Coordinator (CAC) called Applications Package Coordinator (ADPAC) at some sites
- National VISTA Support (NVS)
- Software Quality Assurance (SQA)

## Other Sources of Information



TIP:

Bookmark these sites for future reference.

Refer to the Web sites listed below when you want to receive more background and technical information about BCMA V. 2.0.

#### **Background/Technical Information**

From your Intranet, enter <a href="http://vista.med.va.gov/bcma">http://vista.med.va.gov/bcma</a> in the Address field to access the BCMA Main Web page.

#### This Manual and Related Documentation

From your Intranet, enter <a href="http://vista.med.va.gov/vdl">http://vista.med.va.gov/vdl</a> in the Address field to access this manual, and other BCMA V. 2.0 documentation listed below, from the VISTA Documentation Library (VDL).

- Technical Manual/Security Guide
- Release Notes
- GUI User Manual
- Nursing CHUI User Manual
- Pharmacy CHUI User Manual
- Manager's User Manual

## Conventions Used in This Guide



#### TIP:

In a CHUI environment, when you press ENTER, instead of typing a response, the system accepts the default value shown to the left of the double slash (//) at a prompt or field.

Before installing BCMA V. 2.0, review this section to learn the many conventions used throughout this guide.

- Keyboard Responses: Keys provided in boldface, within the steps, help you quickly identify what to press on your keyboard to perform an action. See the examples provided below.
  - Within the Steps: At the "Select Kernel Installation & Distribution System Option:" prompt, type INSTALL, and then press ENTER.
  - ➤ Within Screen Captures: Text in boldface, centered between arrows on screen captures, identifies the key you must press for the system to capture your response or to move the cursor to the next field. See the following example.

#### DEVICE FOR QUEUED JOB OUTPUT: <Enter>

- Mouse Responses: Buttons provided in boldface, within
  the steps, indicate what you should click on your computer
  screen using the mouse. For example, when you see NEXT,
  YES/NO, or OK in the steps, click the appropriate button on
  your computer screen.
- User Responses: Information presented in **boldface**, within steps or shaded screen captures, indicate what you should "type" (enter) onto your computer screen. See the examples provided below.
  - ➤ Within the Steps: At the "Select OPTION NAME:" prompt, type XPD MAIN and then press ENTER.
  - ➤ Within Screen Captures: See the following example.

#### RESCHEDULING FREQUENCY: 1M

- Screen Captures: Provide "shaded" examples of what you will see on your computer screen, and possible user responses.
- **Notes:** Provided within the steps, describe exceptions or special cases about the information presented. They reflect the experience of our Staff, Developers, and Testers.

# Conventions Used in This Guide (cont.)



#### TIP:

In a CHUI
environment, you
can exit a menu
option by typing a
caret (^), then
pressing ENTER. A
caret is
sometimes called
Up-Arrow.

Before installing BCMA V. 2.0, review this section to learn the many conventions used throughout this guide.

- **Tips:** Located in the left margin, these helpful hints are designed to help you work more efficiently with BCMA V. 2.0.
- **Menu Options:** When provided in *italics*, identifies a menu option. When provided in **boldface**, ALL CAPS, identifies the letters that you should type onto your computer screen, before pressing **ENTER**. The system then goes directly to the menu option. (**Note:** The letters do *not* have to be entered as capital letters, even though they are provided within the steps in this format.) See the examples provided below.
  - ➤ **Italicized:** Use the Kernel *First Line Routine Print* option to print a list containing the first line of every PSB routine.
  - ➤ Capitalized: At the "Taskman Management Option:" prompt, type SCHEDule/Unschedule Options, and then press ENTER.

# Obtaining On-line Help

On-line help is designed right into the Graphical User Interface (GUI) and Character-based User Interface (CHUI) versions of BCMA V. 2.0, making it quick and easy for you to get answers to your questions. Here's how to access help in both versions of this application:

- **GUI BCMA:** Provides context-sensitive, on-line help and the Help menu.
  - ✓ Context-Sensitive Help: Place your "focus" on a feature, button, or Tab on the BCMA VDL, using the TAB key, and then press F1 to receive help specific to that area of the BCMA VDL. In the case of a command, first highlight it in the Menu Bar or Right Click drop-down menu, and then press F1.
  - ✓ Help Menu: Open the Help menu, and then choose the Contents and Index command to receive help for every feature in GUI BCMA V. 2.0.
- **CHUI BCMA:** Lets you enter up to two question marks at any prompt to receive on-line help.
  - ✓ **One Question Mark:** Provides a brief statement related to the prompt.
  - ✓ Two Question Marks: Displays more detailed information about the prompt, plus any hidden actions.

# Locating Detailed Listings

You can obtain *and* print listings about BCMA V. 2.0 routines, and Data Dictionaries using the information provided below.

#### **Routines**

Use the Kernel routine XINDEX to produce detailed listings of routines. Use the Kernel *First Line Routine Print* option to print a list containing the first line of every PSB routine.

#### **Data Dictionaries**

The Data Dictionaries (DDs) are included in the on-line documentation for this software application. You can use the VA FileMan *List File Attributes* option, under *Data Dictionary Utilities* option, to print the Dictionaries.

# Minimum Required Packages



TIP:

BCMA V. 2.0 requires a Master Build.

Before installing BCMA V. 2.0, make sure that your system includes the following Department of Veterans Affairs (VA) software packages and versions (those listed or higher).

The software listed is *not* included in the Master Build and must be installed for the Build to be completely functional.

**Note:** The Master Build provides all of the routines and patches necessary for installing BCMA V. 2.0. Patches required for other software packages are listed in the "Required Patches" section, and BCMA V. 2.0 routines are listed in the "Routines Installed" section of this guide.

#### **Example: Minimum Required Packages and Versions**

PACKAGE	MINIMUM VERSION NEEDED
Inpatient Medications	5.0
Kernel	8.0
MailMan	7.1
Nursing	4.0
Order Entry/Results Reporting	3.0
Pharmacy Data Management	1.0
RPC Broker (32-bit)	1.1
Toolkit	7.3
VA FileMan	22.0

## **Required Patches**

Before installing the BCMA V. 2.0 Master Build, make sure that the following released patches are installed.

#### Pharmacy Data Management V. 1.0

PSS\*1\*46 – requires the following patch

PSS\*1\*44

#### **Inpatient Medications V. 5.0**

PSJ\*5\*58 – requires the following patches

- PSJ\*5\*24
- PSJ\*5\*62
- PSS\*1\*46 will be installed as part of the BCMA V. 2.0 Master Build
- PSJ\*5\*68
- PSJ\*5\*69
- PSJ\*5\*71
- PSJ\*5\*75

#### **CPRS V. 1.0**

OR\*3\*133

RPC Broker V. 1.1

XWB\*1.1\*26

XWB\*1.1\*29

# Installation Time Estimates



#### **IMPORTANT:**

You should install and test BCMA in your test accounts **before** installing in your production accounts. On average, it takes approximately one minute to install BCMA V. 2.0. This estimate was provided by one of our BCMA V. 2.0 Beta Test sites. Suggested time to install: non-peak requirement hours. PC Client users should not be accessing the Client Software.

The execution time of the post-install routine depends on the size of the database and the system that you are running. BCMA V. 2.0 Beta Test sites experienced execution times of at least 30 minutes. Users can be on the system while the post-install routine is running; however, it should not be run during a medication pass.

This routine adds an Index to the BCMA MEDICATION LOG file (#53.79). The BCMA Development Team recommends that Journaling be enabled and closely monitored during the execution of this routine.

**Note:** Actual times may vary, depending on how your site is using its' system resources.

## Resource Requirements



#### TIP:

The approximate size for ^PSB was calculated using a "normal" Med Pass for a Unit Dose and an IV medication order. This is only an estimated number; it serves as the "mean."

This section summarizes the (approximate) number of resources required to install BCMA V. 2.0.

Routines 52

• Globals 1 (^PSB)

• Files 5 (53.66-53.79)

• ^PSB Size Unit Dose = 300 x # of Medications

(in bytes) Administered

IV = 2100 x # of IV Bags

Administered

FTEE Support .2FTEE Maintenance .2

#### **Response Time Monitor**

BCMA V. 2.0 does not include Response Time Monitor hooks.

#### **Laptops and Bar Code Scanners**

The approximate requirements for laptops and bar code scanners depend on the number of Inpatient areas, at your site, that use BCMA V. 2.0 for administering **active** medication orders. The BCMA Development Team recommends that your site have a minimum of three laptops and three scanners for each ward.

#### **Printers**

Your site should provide printers for creating patient wristbands and medication bar code labels, and for handling Missing Dose Requests sent from BCMA V. 2.0 to the Pharmacy.

#### **Unit Dose Label Printer Devices**

BCMA V. 2.0 includes the *Label print* option for printing individual or batch Unit Dose bar code labels. It is specifically coded to the Zebrabrand printers using ZPL command language. Model 105SE was used in the development of the labels. Routine PSBOBL uses site-specific printers or terminals to produce labels.

#### **IV Label Printer Devices**

Inpatient Medications V. 5.0 provides a menu option for printing individual or batch IV bar code labels. See the section "Interfacing with the Bar Code Label Printer" in the *Inpatient Medications V. 5.0 Technical Manual/Security Guide* for detailed setup information.

# Client PC Setup Requirements

Once all BCMA V. 2.0 files are installed, make sure that every Client PC includes the following minimum system configuration — *before* users can actually run BCMA V. 2.0 from it.

BCMA V. 2.0 runs best on Pentinum PCs (166 minimum) with the following characteristics:

- Microsoft® Windows 98, NT 4.0, or 2000 operating system
- 32 megabytes (MB) of RAM
- 20 MB of free hard disk space
- Super VGA color monitor (256-color), 800 x 600 (or higher) resolution
- 8x CD-ROM drive
- 1.44 MB floppy disk drive
- One RS-232 serial port for the Bar Code Reader
- Network Adapter Card supporting TCP/IP at 1 megabits per second (Mbps) throughput

### Files Required to Run BCMA V. 2.0



TIP:

The namespace for the BCMA package is PSB and the primary global is ^PSB. BCMA V. 2.0 uses the following files installed on the **V***ISTA* Server. "Journaling" is recommended.

• ^PSB (53.66,	BCMA IV Parameters
• ^PSB (53.68,	BCMA Missing Dose Request
• ^PSB (53.69,	BCMA Report Request
• ^PSB (53.78,	BCMA Medication Variance Log
• ^PSB (53.79	BCMA Medication Log

**Note:** You can learn more about these files by generating a list with file attributes using VA FileMan.

#### **Routines Installed**

Review the listing below to learn the routines installed on to your site's **V***ISTA* Server during the installation of BCMA V. 2.0. The first line of each routine briefly describes its general function.

**Note:** You can use the Kernel *First Line Routine Print* option to print a list containing the first line of each PSB routine.

#### Example: BCMA V. 2.0 Routines Installed on to V/STA Server

PSB0000 PSBALL PSBAPIPM PSBMD PSBML PSBML1 PSBMLEN PSBMLEN1

PSBMLHS PSBMLTS PSBMLU PSBMLVAL PSBO PSBO1 PSBOAL PSBOBL

PSBODL PSBODL1 PSBODO PSBOHDR PSBOMD PSBOMH PSBOMH1 PSBOMH2

PSBOML PSBOMM PSBOMV PSBOPE PSBOPI PSBOPM PSBOWA PSBPAR

PSBPARIV PSBPOIV PSBPRN PSBRPC PSBRPC1 PSBRPC2 PSBRPCMO PSBRPCXM

PSBSAGG PSBUTL PSBVAR PSBVDLIV PSBVDLPA PSBVDLPB PSBVDLTB PSBVDLU1

PSBVDLU2 PSBVDLUD PSBVDLVL PSBVT

# Items Deleted During the Install Process

This section lists the items deleted during the installation of BCMA V. 2.0.

•	Files	None
•	Options	None

• Routines PSBVDL, PSBVDL1, PSBVDL2,

**PSBORL** 

• Templates None

## VISTA Server Installation Instructions



#### **IMPORTANT:**

You should install and test BCMA in your test accounts **before** installing in your production accounts.



#### TIP:

Performing the steps in this section will help to ensure that GUI BCMA runs smoothly from a Client PC.

Perform the steps provided below to download BCMA V. 2.0 from an FTP Server. Then you will be ready to use this section for loading the KIDS Distribution file and the Broker Server file, and for installing BCMA V. 2.0 on to the **V***ISTA* Server.

**Note:** The installation process will make significant changes to routines, files, and fields within the BCMA V. 2.0 application.

#### Task 1: Download BCMA V. 2.0 Software

Use the following information to download BCMA V. 2.0 from an FTP Server.

- Download the BCMA GUI file PSB2\_0.exe, the Host File PSB\_2\_0.KID, and the Shared Broker file XWB1\_P29PG.exe from an FTP Server using an address listed in the table below.
  - The preferred method is to "FTP" the files from download.vista.med.va.gov. This location automatically transmits files from the *first* available FTP Server. (See the order listed below under the FTP Address column).
    - > .EXE or .PDF files need to be FTP in BINARY.
    - ➤ KIDS Build needs to be FTP in ASCII.

**Note:** If you prefer, you can retrieve the software *directly* from one of the FTP Servers, listed below, under the FTP Address column.

**2** Move the files to the appropriate directory on your system.

#### **Example: FTP Addresses Available for Downloading BCMA V. 2.0 Software**

OI FIELD OFFICE	FTP ADDRESS	DIRECTORY
Albany	ftp.fo-albany.med.va.gov	anonymous.software
Hines	ftp.fo-hines.med.va.gov	anonymous.software
Salt Lake City	ftp.fo-slc.med.va.gov	anonymous.software

## VISTA Server Installation Instructions (cont.)

#### Task 2: Load the KIDS Distribution File

Perform the steps listed below to load the KIDS Distribution file.

- 1 Sign into the UCI where the KIDS Distribution file will be loaded and BCMA V. 2.0 will be installed.
- **2** At the "Select OPTION NAME:" prompt, type **XPD MAIN**, and then press **ENTER**.
- **3** At the "Select Kernel Installation & Distribution System Option:" prompt, type **INSTALL**ation, and then press **ENTER**.
- 4 At the "Select Installation Option:" prompt, type Load a Distribution, and then press ENTER to prepare for loading the KIDS Distribution file.
- 5 At the "Enter a Host File:" prompt, type the directory where you have stored the Host File, followed by PSB\_2\_0.KID. Then press ENTER.
- **6** At the "Want to Continue with Load YES//?" prompt, press **ENTER**. The system then loads the file to this location.

#### Task 3: Install BCMA V. 2.0

Now you are ready to install BCMA V. 2.0 on to the **V***ISTA* Server. Suggested time to install: non-peak requirement hours. PC Client users should not be accessing the Client Software.

**Note:** You should perform the step #1 listed below **now** if you are planning to install BCMA V. 2.0 immediately. However, if you are installing the application at another time, ask users to log off your system at that time.

- 1 From the Facility Tab of the GUI BCMA Site Parameters application, take BCMA users offline.
- **2** Request that all BCMA users log off BCMA.
- **3** Review mapped sets for PSB\*, PSJ\*, PSG\*, and PSIV\*, namespaces.
  - If the routines are mapped, remove them from the mapped set at this time.
- **4** Backup your system. This step is optional, but recommended.
- 5 At the "Select INSTALL NAME:" prompt, type PSB 2.0 and then press ENTER to install BCMA V. 2.0. This Build provides all of the routines, files, and patches necessary for BCMA V. 2.0. It includes PSB 2.0, PSS\*1\*46, PSJ\*5\*58, and BAR CODE MED ADMIN 2.0.

**Note:** During the installation process, the system deletes four (obsolete) routines: 1) PSBVDL, 2) PSBVDL1, 3) PSBVDL2, and PSBORL.

## VISTA Server Installation Instructions (cont.)

#### Task 3: Install BCMA V. 2.0 (cont.)

- 6 At the "Want KIDS to Rebuild Menu Trees Upon Completion of Install? YES//" prompt, type **NO**, and then press **ENTER**. This prompt will display two more times during the installation process. Repeat this step when prompted by the system.
- 7 At the "Want KIDS to INHIBIT LOGONs during the install? YES//" prompt, type **NO**, and then press **ENTER**.
- **8** At the "Want to DISABLE Scheduled Options, Menu Options, and Protocols? YES//" prompt, type **NO**, and then press **ENTER**.
- **9** At the "DEVICE:" prompt, press **ENTER** to use the default device HOME (the screen) for printing the Installation message. If you want to print a hard copy, enter your site printer, and then press **ENTER**.
- **10** At the "Requested Start Time: NOW//" prompt, press **ENTER** to accept the default of NOW. If you want, you can schedule the install to run at a later date.
- 11 If routines were unmapped as part of the installation process, return them to the mapped set once the installation of BCMA V. 2.0 is completed.
- **12** From the Facility Tab of the GUI BCMA Site Parameters application, place BCMA V. 2.0 back on-line.

#### Additional Preparation for BCMA V. 2.0

Now you are ready to perform the steps listed below to further prepare your site and staff for using BCMA V. 2.0.

- 1 If you are an MSM site, move the PSB routines only, to all nodes.
- **2** Assign the following security keys to appropriate site personnel.
  - **PSB MANAGER** designates the holder as a manager
  - **PSB INSTRUCTOR** designates the holder as a nursing instructor supervising student nurses
  - **PSB STUDENT** designates the holder as a student nurse, requiring that an instructor also sign on to BCMA V. 2.0 at the same time
  - PSB CPRS MED BUTTON designates the holder as a nurse who can document administered verbal- and phonetype STAT and NOW orders using the CPRS Med Order Button on the BCMA V. 2.0 VDL

## Working with GUI BCMA V. 2.0

# VISTA Server Setup Requirements

This section lists the setup instructions that you should perform on the **V***ISTA* Server — once all files are installed — *before* users actually run BCMA V. 2.0 directly from it.

#### To Set up the VISTA Server:

- 1 Verify that the RPC Broker is installed on to the VISTA Server.
- **2** Verify that the BCMA V. 2.0 Server software is installed on to the VISTA Server.
- **3** Obtain a Broker Server IP address and port from your Server Administrator.
- **4** Assign the secondary menus "PSB GUI CONTEXT USER" and "OR BCMA ORDER COM" to each BCMA user.

# Client PC Setup Requirements

Once all BCMA V. 2.0 files are installed, make sure that every Client PC includes the following minimum system configuration — *before* users can actually run BCMA V. 2.0 from it.

BCMA V. 2.0 runs best on Pentinum PCs (166 minimum) with the following characteristics:

- Microsoft® Windows 98, NT 4.0, or 2000 operating system
- 32 megabytes (MB) of RAM
- 20 MB of free hard disk space
- Super VGA color monitor (256-color), 800 x 600 (or higher) resolution
- 8x CD-ROM drive
- 1.44 MB floppy disk drive
- One RS-232 serial port for the Bar Code Reader
- Network Adapter Card supporting TCP/IP at 1 megabits per second (Mbps) throughput

## Working with GUI BCMA V.2.0

## Standard Installation Procedure for GUI BCMA V. 2.0



#### TIP:

If you are upgrading BCMA, make sure that users log off the current version **before** performing these instructions.



#### TIP:

Before running GUI BCMA from a Client PC, make sure that the Shared Broker is installed. Use the instructions listed below to install the GUI version of BCMA V. 2.0, on a Client PC. You can use BCMA V. 2.0 to upgrade an earlier version of BCMA, or you can install BCMA V. 2.0 without previous versions being installed.

#### To Install GUI BCMA V. 2.0 on a Client PC:

- 1 Locate the directory where you downloaded the Shared Broker file XWB1\_1P29PG.exe via FTP, and then double click on the file to install the Shared Broker.
  - To ensure that XWB1\_1P29 has been installed, browse to the standard installation path, C:\Program Files\vista\
    Common Files. Verify whether the following files exist:
    "RPCSharedBrokerSessionMgr.exe" and
    "RPCSharedBrokerSessionMgr1.exe."
- 2 Locate the directory where you downloaded the GUI BCMA V. 2.0 file PSB2\_0.exe via FTP, and then double click on the file to launch the InstallShield Wizard.
- **3** Click **YES** at the message, "Would you like to install BCMA?"
- 4 At the InstallShield Wizard Welcome screen, click **NEXT**.
- **5** Read the contents of the BCMA Installation screen, and then click **NEXT**.
- **6** Click **NEXT** at the Choose Destination Location screen.
  - Click BROWSE if you want to locate another folder to replace the default destination folder. Once located and selected, click NEXT to proceed with the installation process.
- 7 At the Setup Type screen, select one of the following choices, then click **NEXT** to continue with the installation process. "Typical" is the default installation.
  - **Typical** Installs the BCMA Client program *and* the GUI BCMA Site Parameters program.
  - Compact Installs only the BCMA Client program, which is necessary for using BCMA V. 2.0 to perform the medication administration process.
  - Custom Lets you select which programs (i.e., BCMA Client program or GUI BCMA Site Parameters program) that you want to install.
- **8** At the InstallShield Wizard Complete screen, click **FINISH** to complete the BCMA installation process. BCMA V. 2.0 is now installed on to the PC.

## Working with GUI BCMA V. 2.0

# Working with the Hosts File on the Client PC



#### TIP:

Users must have FULL read/write access to the BCMA directory on the Client PC that they're using.



#### TIP:

You must have at least one space between the address and the name. Do *not* put any spaces in the name.

Make sure that every Client PC has a link established between the Client PC and the VISTA Server via the Hosts file on the PC — before running GUI BCMA V. 2.0 from a Client PC. Then you can set up the Optional Command Line Parameters using the table provided in the next section.

Where your Hosts file (no extension) is located, depends on your system. For example:

- Microsoft Windows 98 C:\Windows
- Microsoft Windows NT 4.0, or 2000 C:\WinNt\System32\Drivers\Etc.

#### ➤ If No Hosts File Exists

If the Hosts file does *not* exist, create one. (Your system may already contain a sample file called "hosts.sam.") If you create the file using Notepad, it will automatically save the file with a .txt extension. You can use Microsoft Explorer to rename the file without an extension.

#### ➤ If the Hosts File Exists

If the Hosts file already exists, do *not* delete anything. Just add the new information (i.e., the address and the name) at the end of the file. See the examples provided below.

- If a user only needs access to one BCMA Server and the ServerPort is 9200, add one line to the Hosts file. Use the IP address provided by your Server Administrator. See the example provided below.
  - > 152.111.222.333 BrokerServer
- If the user only needs to access one BCMA Server and the ServerPort is not 9200, add one line to the Hosts file as shown in the example provided above in step #1. Then use the table in the next section to set up the Optional Command Line Parameters.
- If the user needs to access multiple BCMA Servers and/or the ServerPort is *not* 9200, add the BCMA Server names to the Hosts file. (The names can be anything you like.) See the examples listed below. Then use the table in the next section to set up the Optional Command Line Parameters.
  - 152 111 222 333 BrokerServer1
  - > 152.222.333.444 BrokerServer2

## Working with GUI BCMA V.2.0

## Setting up Optional Command Line Parameters

Use the table provided below to set up the Optional Command Line Parameters. The order that you set up each Parameter is up to your site. However, each Parameter must be continuous, without any spaces.

**Note:** If Parameters "S" and "P" are set, they must both be present, or the Client PC will ignore them.

### **Example: Set up for Optional Command Line Parameters**

PARAMETER	EXAMPLE (DEFAULT)	DESCRIPTION
S=	S=BrokerServer	The name of the BCMA Broker Server, as defined in the Hosts file. The default is "BrokerServer."
P=	P=9200	The server port used by the BCMA Broker Server. The default is "9200."
L=	L=C:\Temp	The DOS path location for the BCMA Error Log file. Any DOS path will work. The default is "C:\Temp."
T=	T=60	RPC Broker TimeOut in seconds. This is the amount of time that BCMA V. 2.0 will wait for a response from an RPC on VISTA. If it is not defined, the default value is three minutes. The minimum value is 30 seconds; anything less is ignored. If the VISTA System's CPU utilization is near 100 percent, and frequent timeouts occur in the GUI version of BCMA V. 2.0, you can increase this value.  NOTE: The higher the value, the longer BCMA V. 2.0 will appear
		to hang until the RPC Broker call is complete.
/NOLOGFILE		This parameter disables the Error Log.
/DEBUG		This parameter turns on (displays) the BCMA Debug screens.

## Working with the Monthly SAGG Report

# Setting up the Monthly Batch Job



#### TIP:

You can use FORUM to view your monthly SAGG Report.



#### TIP:

In step #7, ### is the number of the entry.



#### TIP:

See the next page to view the set up of a monthly SAGG Report. Use the steps listed below to set up your system to run the Monthly Statistical Analysis of Global Growth (SAGG) Report.

**Note:** You do *not* need to perform the steps listed below if you have already set up the Monthly SAGG Report. If you have *not*, use the steps listed below.

#### To Set up the Monthly Batch Job:

- 1 At the Programmer's prompt, type **D** ^**XUP**, and then press **ENTER** to access the menu option for setting up your Monthly SAGG Report.
- **2** At the "Select OPTION NAME:" prompt, type **EVE**, and then press **ENTER**.
- From the list of choices, select Systems Manager Menu, and then press **ENTER**.
- 4 At the "Select Systems Manager Menu Option:" prompt, type TASKman Management, and then press ENTER.
- 5 At the "Select Taskman Management Option:" prompt, type SCHEDule/Unschedule Options, and then press ENTER.
- At the "Select OPTION schedule or reschedule:" prompt, type PSB SAGG MONTHLY REPORT, and then press ENTER.
- 7 At the "Are you adding 'PSB SAGG MONTHLY REPORT' as a new OPTION SCHEDULING (the ###)? No//" prompt, type Yes, and then press ENTER. The Edit Option Schedule screen displays.
- **8** At the "QUEUED TO RUN AT WHAT TIME:" prompt, type a date and time when you want the report to run, in a VA FileMan format. Then press **ENTER** to move to the next prompt.
- **9** At the "DEVICE FOR QUEUED JOB OUTPUT:" prompt, press **ENTER** (leave this prompt blank).
- **10** At the "QUEUED TO RUN ON VOLUME SET:" prompt, type **the volume set (CPU)** to use for running the monthly batch job. Then press **ENTER** to move to the next prompt.
- 11 At the "RESCHEDULING FREQUENCY:" prompt, type 1M to run the report on a monthly basis. Then press **ENTER** to move to the next prompt.
- **12** At the "TASK PARAMETERS:" prompt, press **ENTER** (leave this prompt blank).
- **13** At the "SPECIAL QUEUEING:" prompt, press **ENTER** (leave this prompt blank).
- **14** At the "COMMAND:" prompt, type **S** to save the settings, and then press **ENTER**. Your report will print on the same day and time each month (until you specify otherwise).
- **15** At the "COMMAND:" prompt, type **E** to exit the Edit Option Schedule screen.

## Working with the Monthly SAGG Report

# Setting up the Monthly Batch Job (cont.)

The following example illustrates the set up process for running the SAGG Monthly Report at your site.

#### **Example: Set up for SAGG Monthly Report**

```
>D ^XUP
Setting up programmer environment
Terminal Type set to: C-VT320
Select OPTION NAME: EVE
    1 EVE Systems Manager Menu
    2 EVENT CAPTURE DATA ENTRY ECENTER Event Capture Data Entry
    3 EVENT CAPTURE MANAGEMENT MENU ECMGR Event Capture Management
Menu
    4 EVENT CAPTURE MENU ECMENU Event Capture Menu
    5 EVENT CAPTURE ONLINE DOCUMENTA ECDSONL Event Capture Online
Documentation
Press <RETURN> to see more, '^' to exit this list, OR
CHOOSE 1-5: 1 EVE Systems Manager Menu
Select Systems Manager Menu Option: TASKman Management
Select Taskman Management Option: SCHEDule/Unschedule Options
Select OPTION to schedule or reschedule: PSB SAGG MONTHLY REPORT
                                                                Monthly
SAGG Report
        ...OK? Yes// <Enter>
```

## Working with the Monthly SAGG Report

# Setting up the Monthly Batch Job (cont.)

The example provided below illustrates the prompts (fields) to complete on the Edit Option Schedule screen for running the PSB SAGG Monthly Report at your site.

#### **Example: Set up for SAGG Monthly Report (cont.)**

```
Edit Option Schedule
    Option Name: PSB SAGG MONTHLY REPORT
    Menu Text: Monthly SAGG Report
                                                                TASK ID:
  QUEUED TO RUN AT WHAT TIME: <Date, time to run the report>
DEVICE FOR QUEUED JOB OUTPUT: <Enter>
 QUEUED TO RUN ON VOLUME SET: <Volume set (CPU)>
      RESCHEDULING FREQUENCY: 1M
             TASK PARAMETERS: <Enter>
            SPECIAL QUEUEING: <Enter>
Exit
                Next Page
        Save
                               Refresh
Enter a command or '^' followed by a caption to jump to a specific field.
COMMAND: S
                                          Press <PF1>H for help
                                                                   Insert
                                          Press <PF1>H for help
COMMAND: E
                                                                   Insert
```

## Changes to IV Verification in Inpatient Medications



#### TIP:

Patch PSJ\*5\*58 is included in the Master Build of BCMA V. 2.0. IV verification is now required with the PSJ\*5\*58 patch. For orders that were entered prior to the installation of this patch, an algorithm was designed to determine the verifying pharmacist. The verifying user IEN is stored in the VERIFYING PHARMACIST sub-field (#140) of the IV multiple (#100) of the PHARMACY PATIENT file (#55), which was added with patch PSS\*1\*46. The DATE VERIFIED BY PHARMACIST sub-field (#141) of the IV multiple (#100) of the PHARMACY PATIENT file (#55), which has also been added with patch PSS\*1\*46, will reflect the installation date and time.

The Activity Log for the IV Order stored the user name in free text. During this conversion, the free text user name is compared to the NEW PERSON file (#200). If there is an exact and unique match, then the IEN for this person is stored in the USER sub-field (#.06) of the ACTIVITY LOG multiple (#40) of the IV multiple (#100) of the PHARMACY PATIENT file (#55) that was added with patch PSS\*1\*46.

If the software is able to determine the user's IEN, for all affected IV orders, and no intervention is required, the MailMan message generated by the conversion will contain only the conversion information. The subject of this message will be: PSJ\*5\*58 IV Verification. See the examples provided in this section.

#### **Example: Prior IV Orders Marked as Verified**

# Changes to IV Verification in Inpatient Medications (cont.)

When the software is unable to determine the user's IEN, the MailMan message generated by this conversion will instruct the installer to assign the *Correct Change User Names in IV activity log* option to a holder of the PSJI MGR security key who is familiar with the Pharmacy users to allow them to correct the unresolved names. The subject of this message will be: PSJ\*5\*58 IV Verification.

Once all of the unresolved names are resolved, another MailMan message is generated. This message will instruct the user who ran the Correct Change User Names in IV activity log [PSJI ACTIVITY LOG VA200] option to contact IRM to remove the option. The subject of this message is Changed names in IV orders. See the second Example provided below.

The site has 30 days to correct names in the IV Activity Log, after which the XTMP will be deleted. If this correction is not made, the user name will not display on the Activity Log.

## Example: MailMan Message Instruction to Run PSJI ACTIVITY LOG VA 200 Option

```
Subj: PSJ*5*58 IV Verification [#83054] 11 Jan 02 10:47 6 lines
From: PSJ*5*58 In 'IN' basket. Page 1

Marking prior IV orders as verified started: Jan 11, 2002@10:47:28
It ran to completion: Jan 11, 2002@10:47:46

Please assign the PSJI ACTIVITY LOG VA200 option to a holder of the
PSJI MGR key who is familiar with the Pharmacy users to correct any names that the software was unable to match to the New Person file (#200).

Enter message action (in IN basket): Ignore//
```

## Example: MailMan Message Instruction to Remove PSJI ACTIVITY LOG VA 200 Option

```
Subj: Changed names in IV orders [#83055] 11 Jan 02 12:21 5 lines

From: PSJ*5*58 INSTALL In 'IN' basket. Page 1

The process that has replaced the changed names in the IV orders has finished.

Please have IRM remove the PSJI ACTIVITY LOG VA200 option, as it is no longer needed.

Enter message action (in IN basket): Ignore//
```

## Changes to IV Verification in Inpatient Medications (cont.)

An entry is made in the ACTIVITY LOG multiple (#40) of the IV multiple (#100) of the PHARMACY PATIENT file (#55) to indicate the verification action was performed during the installation of this patch. The user in the log entry is the verifying pharmacist determined during the conversion. See the first example provided below.

#### **Example: Entry Made in IV Orders Activity Log**

ACTIVITY # DATE	LOG: TIME	REASON		USER
	,2002 10:47:4 t: AUTO VERIF	======================================	 H PSJ*5*58	INPATIENT-MEDS, PHARMACIST

# Changes to the BCMA Medication Log File

Upon completion of the installation of BCMA V. 2.0, a post-install routine will be started to build a new Index in the BCMA MEDICATION LOG file (#53.79). When the build is complete, the user who initiated the install will receive a message with a subject of BUILD OF PATCH CROSSREFERENCE COMPLETE. See the example provided above.

### Example: MailMan Message Generated During BCMA V. 2.0 Installation

```
Subj: BUILD OF PATCH CROSSREFERENCE COMPLETE [#130111] 24 Apr 02 10:31 1 line From: MEDICATIONS, INPATIENT In 'WASTE' basket. Page 1

The build of the PATCH crossreference completed as of APR 24,2002@10:31:20.

Enter message action (in WASTE basket): Ignore//
```

# Learning BCMA V. 2.0 Lingo

The alphabetical listing, in this section, is designed to familiarize you with the many acronyms and terms used throughout this guide.

## **Example: Alphabetical Listing of BCMA V. 2.0 Acronyms and Terms**

ACRONYM/TERM	DEFINITION	
Broker Server	The M portion of RPC Broker within the VA's Veterans Health Information Systems and Technology Architecture ( <b>V</b> /ST <b>A</b> ) environment.	
CHUI	Character-based User Interface.	
Client	An architecture in which one computer can get information from another. The Client is the computer that asks for access to data, software, or services.	
CPRS	Computerized Patient Record System. A V/STA software application that allows users to enter patient orders into different software packages from a single application. All pending orders that appear in the Unit Dose and IV packages are initially entered through the CPRS package. Clinicians, Managers, Quality Assurance Staff, and Researchers use this integrated record system.	
Data Dictionary	Also called "DD," the dictionary that contains file attributes.	
FileMan	The V/srA database management system.	
FTEE	Full Time Equivalent Employee.	
GUI	<b>G</b> raphical <b>U</b> ser Interface. The type of interface chosen for BCMA V. 2.0.	
IV	A medication given intraveneously (within a vein) to a patient from an IV bag. IV types include Admixture, Chemotherapy, Hyperal, Piggyback, and Syringe.	
Journaling	A record of changes made in files and messages transmitted. It is quite useful when recovering previous versions of a file before updates were made, or to reconstruct updates if an updated file gets damaged.	
PSB CPRS MED BUTTON	The name of the security "key" that must be assigned to nurses who document verbal- and phone-type STAT and NOW (One-Time) medication orders using the CPRS Med Order Button on the BCMA V. 2.0 VDL.	
PSB INSTRUCTOR	The name of the security "key" that must be assigned to nursing instructors, supervising nursing students, so they can access user options within BCMA V. 2.0.	
PSB MANAGER	The name of the security "key" that must be assigned to managers so they can access the PSB Manager options within BCMA V. 2.0.	
PSB STUDENT	The name of the security "key" that must be assigned to student nurses so they can access user options within BCMA V. 2.0. This key also requires that a nurse sign on to BCMA V. 2.0.	

## Glossary

## Learning BCMA V. 2.0 Lingo (cont.)

The alphabetical listing, in this section, is designed to familiarize you with the many acronyms and terms used throughout this guide.

### **Example: Alphabetical Listing of BCMA V. 2.0 Acronyms and Terms**

ACRONYM/TERM	DEFINITION
RPC	Remote Procedure Call. A procedure stored on the VISTA Server, which is executed to return data to the Client.
RPC Broker	A Client/Server System within the VA's Veterans Health Information Systems and Technology Architecture ( <b>V</b> IST <b>A</b> ) environment. It enables client applications to communicate and exchange data with M Servers.
Security Keys	Used to access specific options within BCMA V. 2.0 that are otherwise "locked" without the security key. Only users designated as "Holders" may access these options.
Server	An architecture in which one computer can get information from another. The Server, which can be anything from a personal computer to a mainframe, supplies the requested data or services to the Client.
VDL	Virtual Due List. An on-line "list" used by clinicians when administering active medication orders (i.e., Unit Dose, IV Push, IV Piggyback, and large-volume IV) to a patient. This is the Main Screen in BCMA V. 2.0.  Note: This is called BCMA VDL in this guide to eliminate confusion with the V/STA Documentation Library (VDL) also mentioned in this guide.
<b>V</b> IST <b>A</b>	Veterans Health Information Systems and Technology Architecture.

```
>D ^XUP
Setting up programmer environment
Terminal Type set to: C-VT320
Select OPTION NAME: XPD MAIN
                             Kernel Installation & Distribution System
Select Kernel Installation & Distribution System Option: INSTALLation
Select Installation Option: ?
         Load a Distribution
         Verify Checksums in Transport Global
         Print Transport Global
   3
   4
         Compare Transport Global to Current System
   5
         Backup a Transport Global
         Install Package(s)
         Restart Install of Package(s)
         Unload a Distribution
Select Installation Option: 1 Load a Distribution
Enter a Host File: <Enter a directory where you have stored the Host File,
followed by PSB 2 0.KID>
KIDS Distribution saved on May 10, 2002@10:03:04
Comment: BAR CODE MED ADMIN V2
This Distribution contains Transport Globals for the following Package(s):
    PSS*1.0*46
    PSJ*5.0*58
     BAR CODE MED ADMIN 2.0
Distribution OK!
Want to Continue with Load? YES// <Enter>
Loading Distribution...
  PSB 2.0
  PSS*1.0*46
  PSJ*5.0*58
  BAR CODE MED ADMIN 2.0
Use INSTALL NAME: PSB 2.0 to install this Distribution.
```

```
Select Installation Option: ?
        Load a Distribution
        Verify Checksums in Transport Global
        Print Transport Global
         Compare Transport Global to Current System
   5
         Backup a Transport Global
         Install Package(s)
         Restart Install of Package(s)
         Unload a Distribution
Select Installation Option: 6 Install Package(s)
Select INSTALL NAME: PSB 2.0
                               Loaded from Distribution 5/10/02@10:05:06
    => BAR CODE MED ADMIN V2 ;Created on May 10, 2002@10:03:04
This Distribution was loaded on May 10, 2002@10:05:06 with header of
  BAR CODE MED ADMIN V2 ; Created on May 10, 2002@10:03:04
   It consisted of the following Install(s):
        PSB 2.0
                  PSS*1.0*46
                                 PSJ*5.0*58
                                                BAR CODE MED ADMIN 2.0
Checking Install for Package PSB 2.0
Install Questions for PSB 2.0
Checking Install for Package PSS*1.0*46
Install Questions for PSS*1.0*46
Incoming Files:
            PHARMACY PATIENT (Partial Definition)
Note: You already have the 'PHARMACY PATIENT' File.
Checking Install for Package PSJ*5.0*58
Install Questions for PSJ*5.0*58
Incoming Files:
            NON-VERIFIED ORDERS (Partial Definition)
Note: You already have the 'NON-VERIFIED ORDERS' File.
            ACTIVITY LOG REASON (including data)
Note: You already have the 'ACTIVITY LOG REASON' File.
I will OVERWRITE your data with mine.
Want KIDS to Rebuild Menu Trees Upon Completion of Install? YES// NO
Checking Install for Package BAR CODE MED ADMIN 2.0
Install Questions for BAR CODE MED ADMIN 2.0
```

```
Incoming Files:
           BCMA IV PARAMETERS
Note: You already have the 'BCMA IV PARAMETERS' File.
          BCMA MISSING DOSE REQUEST
   53.68
Note: You already have the 'BCMA MISSING DOSE REQUEST' File.
  53.69
           BCMA REPORT REQUEST
Note: You already have the 'BCMA REPORT REQUEST' File.
   53.78
           BCMA MEDICATION VARIANCE LOG
Note: You already have the 'BCMA MEDICATION VARIANCE LOG' File.
   53.79 BCMA MEDICATION LOG
Note: You already have the 'BCMA MEDICATION LOG' File.
   8989.51 PARAMETER DEFINITION (including data)
Note: You already have the 'PARAMETER DEFINITION' File.
I will REPLACE your data with mine.
Want KIDS to Rebuild Menu Trees Upon Completion of Install? YES// NO
Want KIDS to INHIBIT LOGONs during the install? YES// NO
Want to DISABLE Scheduled Options, Menu Options, and Protocols? YES// NO
Enter the Device you want to print the Install messages.
You can queue the install by enter a 'Q' at the device prompt.
Enter a '^' to abort the install.
DEVICE: HOME// <Enter>
```

```
Install Started for PSB 2.0:
               May 10, 2002@10:05:52
Build Distribution Date: May 10, 2002
 Installing Routines:
               May 10, 2002@10:05:52
 Install Started for PSS*1.0*46 :
               May 10, 2002@10:05:52
Build Distribution Date: May 06, 2002
 Installing Routines:
               May 10, 2002@10:05:52
 Installing Data Dictionaries:
               May 10, 2002@10:06:03
 Updating Routine file...
 The following Routines were created during this install:
    PSSJXR
     PSSJXR1
     PSSJXR10
     PSSJXR11
     PSSJXR12
     PSSJXR13
     PSSJXR14
     PSSJXR15
     PSSJXR16
     PSSJXR17
     PSSJXR18
     PSSJXR19
     PSSJXR2
     PSSJXR20
     PSSJXR21
     PSSJXR22
     PSSJXR23
     PSSJXR24
     PSSJXR25
     PSSJXR26
     PSSJXR3
     PSSJXR4
     PSSJXR5
     PSSJXR6
     PSSJXR7
     PSSJXR8
     PSSJXR9
```

```
Updating KIDS files...
PSS*1.0*46 Installed.
              May 10, 2002@10:06:05
Install Message sent # 150566
Install Started for PSJ*5.0*58 :
              May 10, 2002@10:06:05
Build Distribution Date: May 06, 2002
Installing Routines:
              May 10, 2002@10:06:07
 Installing Data Dictionaries:
              May 10, 2002@10:06:08
 Installing Data:
               May 10, 2002@10:06:09
 Installing PACKAGE COMPONENTS:
 Installing SECURITY KEY
 Installing PROTOCOL
 Located in the PSJ (INPATIENT MEDICATIONS) namespace.
 Installing LIST TEMPLATE
 Installing OPTION
              May 10, 2002@10:06:10
 Running Post-Install Routine: EN^PSJUTL3
 Updating Routine file...
```

```
The following Routines were created during this install:
     PSGXR3
     PSGXR31
     PSGXR310
     PSGXR311
     PSGXR312
     PSGXR32
     PSGXR33
     PSGXR34
     PSGXR35
     PSGXR36
     PSGXR37
     PSGXR38
     PSGXR39
 Updating KIDS files...
 PSJ*5.0*58 Installed.
               May 10,2002@10:06:12
Install Message sent # 150567
Install Started for BAR CODE MED ADMIN 2.0:
               May 10, 2002@10:06:12
Build Distribution Date: May 10, 2002
 Installing Routines:
               May 10, 2002@10:06:14
 Installing Data Dictionaries:
               May 10, 2002@10:06:17
 Installing Data:
               May 10, 2002@10:06:19
 Installing PACKAGE COMPONENTS:
 Installing SECURITY KEY
 Installing FORM
 Installing REMOTE PROCEDURE
 Installing OPTION
 Installing PARAMETER TEMPLATE
               May 10, 2002@10:06:32
```

```
Updating Routine file...
Updating KIDS files...
BAR CODE MED ADMIN 2.0 Installed.
            May 10, 2002@10:06:33
Install Message sent # 150569
                              BAR CODE MED ADMIN 2.0
Running Post-Install Routine: EN^PSB0000
Requested Start Time: NOW// (MAY 10, 2002@10:06:35)
The build of the PATCH xref is queued
(to start NOW).
YOU WILL RECEIVE A MAILMAN MESSAGE WHEN TASK #1097834 HAS COMPLETED.
Updating Routine file...
Updating KIDS files...
PSB 2.0 Installed.
            May 10, 2002@10:06:35
Install Message sent # 150570
                           50
Complete [-----]
Install Completed
```